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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/521,037	03/08/2000	Pawan R. Gupta	MOF-11	1918

22855 7590 09/16/2003

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EXAMINER
MARTIR, LILYBETT

ART UNIT	PAPER NUMBER
2855	

DATE MAILED: 09/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Offic Action Summary	Application No.	Applicant(s)	
	09/521,037	GUPTA, PAWAN R.	
	Examiner	Art Unit	
	Lilybett Martir	2855	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 July 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-10,12-14 and 16-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-10,12-14 and 16-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-3,5,8-10,12-14 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamibayashi (JP108178770A) in view of either Lipton (Pat. 3,618,379) or McKernan (Pat. 3,174,334) and further in view of Proceq SA (SM 55, SM 150).

- With respect to claims 1,8-9, and 19-20, Kamibayashi teaches a frame 2 having a pair of ends, adapted to engage a stressed rope or cable R, a hydraulic jack mounted on said frame between it's ends for applying a known force on the stressed cable, and linear deflection measuring means on said frame as comprised by elements 4 and 5, for measuring the linear deflection of the stressed cable as does element 5 (See Figures 3 and 4 and Constitution). Kamibayashi fails to teach providing notched ends to apply a pulling force. Proceq Sa teaches applying a pulling force in order to measure the tensile force of a wire. Both Lipton and McKernan teach cable-engaging elements which are notched (See Lipton, Figure 2, elements 34 and 43, and McKernan, Figure 1, elements 14 and 16). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to

modify the teachings of Kamibayashi utilizing the teachings of either Lipton or McKernan by providing his device with cable engaging elements which would allow to secure said wires in a precise and reliable manner. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the teachings of Kamibayashi by further utilizing the teachings of Proceq SA by applying pulling force and therefore reversing the direction in which the force is being applied in order to measure the tensile force of a wire to therefore allow for measurements to be made in situations where the surrounding would not allow a pushing force to be applied, therefore making said device versatile.

- With respect to claim 2, Kamibayashi fails to teach the utilization of a hook, said hook connected to said jack and adapted for engagement with said stressed cable. Proceq SA teaches applying a force to a wire or strand by means of a hook as noted in the Figures of Page 1. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the teachings of Kamibayashi by further utilizing the teachings of Proceq SA by providing said device with a hook to maintain the element which deflection is being measured in place, therefore making said device more accurate.
- With respect to claim 3, Kamibayashi fails to teach the force of said jack being applied to the stressed cable through the hook means. Proceq SA teaches applying a force to a wire or strand by means of a hook as noted in the Figures of Page 1. It would have been obvious at the time the invention was

made to a person having ordinary skill in the art to modify the teachings of Kamibayashi by further utilizing the teachings of Proceq SA by providing said device with a hook to maintain the element which deflection is being measured in place, therefore making said device more accurate.

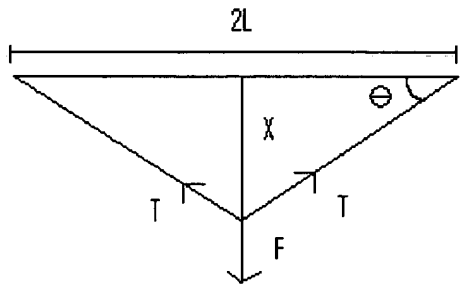
- With respect to claims 5,12 and 16 Kamibayashi fails to specifically disclose that his Jack applies a pre-set force to the stressed cable, even though he discloses the utilization of it's jack to push and therefore apply a force. Proceq SA teaches applying a pre-set force to the stressed cable (Page 3, second paragraph). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the teachings of Kamibayashi by further utilizing the teachings of Proceq SA by utilizing it's jack to apply a pre-determined force to the specimen whose features are being measured to make the measuring device more accurate.
- With respect to claims 7,14 and 18, Kamibayashi teaches a frame shaped in a "V" shape, as noted in Figure 3.
- With respect to claim 10, It can be found from simple mathematical calculations utilizing the commonly known SOH- CAH- TOA and commonly known physics equations for Tension that when a string of length 2L is stretched between two fixed points with a tension T and force F is applied at mid span normal to the string, where the string deflection under the force is x, that a relation between F and x/L exists, assuming that T remains constant even though the string is stretching and that the displacement x is small relative to the string length. (consider equilibrium of the midpoint of the string

where the force F is applied). At this point we have three forces acting; the tension in the string on either side of the point and the force F. Now, assuming the displacement of the center of the string is small relative to the string length, the angle of the string is simply the slope of the string.

$\sin\theta \approx \theta \approx \tan\theta$ and $\theta \approx x/L$

Therefore it can be concluded by equating forces that:

$F = 2T\sin\theta$ or that $F = 2T(x/L)$ or that $T = F / (2\sin\theta)$



Kamibayashi and Proceq Sa disclose the measurement of tension in a wire that is being deflected but they fail to disclose the involved equations utilized in said process. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize commonly known physics and mathematical equations such as the ones disclosed above to further obtain reliable values that are both accurate and reliable.

3. Claims 6,13 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamibayashi of either Lipton or McKernan and further in view of Proceq SA as applied to claims 1-3 above and further in view of Grade et al. (Pat. 4,423,639).

- With respect to claims 6,13 and 17, Kamibayashi teaches the utilization of gauge means 32, but he fails to teach Measuring means that include a gauge

mounted onto said frame. Grade et al. teaches an apparatus for indicating the tension in a line that has a pressure gauge as in element 22 mounted onto it's frame. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the teachings of Kamibayashi as modified above further utilizing the teachings of Grade et al. by mounting the pressure gauge directly in the frame to make the device easier to handle and smaller so that it can fit in smaller places.

Response to Arguments

4. Applicants amendments raised new issues that made necessary the new art to be applied and therefore, the arguments presented against Kamibayashi in view of. Proceq SA are said to be moot due to the new grounds of rejection. Applicant's arguments have being fully addressed in the above presented office action.

Conclusion

5. 10.Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

6. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lilybett Martir whose telephone number is (703)305-6900. The examiner can normally be reached on 9:00 AM to 5:30 PM.

8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (703)305-4816. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3432 for regular communications and (703)305-3432 for After Final communications.

9. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

CM

Lilybett Martir
Examiner
Art Unit 2855

CM
September 5, 2003

EDWARD LEFKOWITZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800